



记辽宁早第三纪一哺乳动物化石

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长期以来,东北广大区域内未曾发现过第三纪哺乳动物化石。1984年,在吉林桦甸第一次发现了一个晚始新世哺乳动物化石地点(王伴月、李春田,1990)。1988年,辽河油田秦德荣同志将一件哺乳动物化石送交中国科学院古脊椎动物与古人类研究所鉴定。这是辽宁首次发现的第三纪哺乳动物化石。标本发现于辽宁沈阳以西大约37.5公里的大民屯凹陷南部边缘地区,是辽河油田研究院赵鸥同志从辽河油田法24井井深1739米的地层岩心中采获的。产化石地层的岩性为灰色含炭屑粉砂质泥岩—泥质粉砂岩,属沙河街组三段上部。

辽宁新发现的标本是一枚石炭兽类的左下前臼齿(辽河油田标本,编号LHJ0001)。由于材料太少,无法作出较精确的鉴定,只能确定应属石炭兽类(*Anthracotheriidae* gen. et sp. indet.)

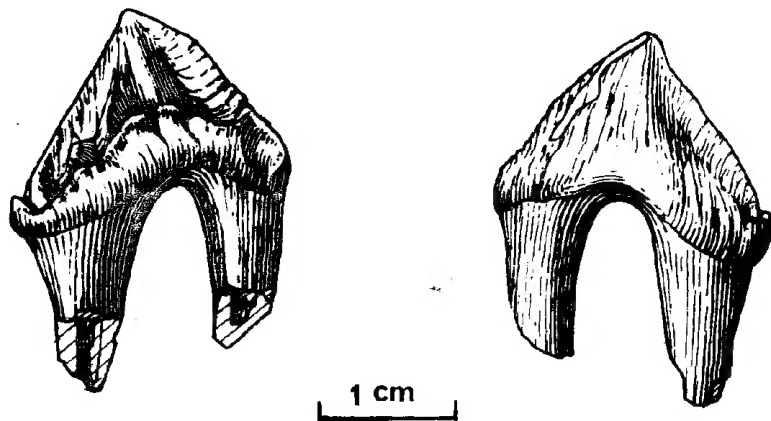


图1 石炭兽科(属种未定)之左 P_3 (LHJ0001)

左:舌侧视; 右:唇侧视

Fig. 1 Left P_3 (LHJ0001) of *Anthracotheriidae* gen. et sp. indet.
left: lingual view; right: labial view

标本记述 标本长约21.25毫米,齿冠高为15.65毫米,前部宽度6.00毫米,后部宽度为8.80毫米。双齿根。齿冠强烈侧扁,侧视呈三角形。主尖高而尖锐。前脊凸、前部

向内弯曲;后脊凹;内脊弱但很明显,自齿尖顶部向后下方延伸,交于基部内侧前后方向大约 2/3 处。跟座不发育。内侧齿带发育,未达前端即与前脊相连,外侧仅后端存在不太明显的齿带。齿尖内壁较平。齿冠表面饰有细纹,在牙齿的前部、后部、齿脊和齿带上构成细褶。牙齿磨蚀程度浅,齿尖之前、前齿脊外侧有明显的磨蚀面,而齿尖之后仅后脊顶部存在磨蚀痕迹。

讨论 辽河标本上,磨蚀面在齿尖之前比齿尖之后明显,齿冠强烈侧扁,个体较大,且内脊弱,跟座不发育,因而它很可能是 P_3 (或 P_2)。

石炭兽类化石曾在我国云南、贵州、广西、山西、新疆、内蒙古等地的始新统和渐新统中发现过,被归入 9 个属中。可以对比的材料与辽河标本之间均有明显的差别。

辽河标本的大小与缅甸邦唐 (Pondaung) 晚始新世 *Anthracothema* 的 P_3 比较接近。Pilgrim (1928) 在建立 *Anthracothema* 一属时,认为该属的 P_3 不具内脊。但在描述属型种 *A. pangan* (Pilgrim et Cotter) 时,提到 P_3 有弱的内脊 (p. 11), 且从图版 (Pl. I, figs. 1, 3) 上也可以清楚地见到 P_3 具有内脊。晚始新世的另一个属 *Anthracokeryx* P_3 和 P_4 均具内脊, 但辽河的标本比它大得多。辽河标本具有发育的内齿带。在 Pilgrim (1928) 给出的 *Anthracothema* 和 *Anthracokeryx* 两属的特征中,除指出两属的 P_3 和 P_4 具有后齿带外,未提及内齿带。然而, Pilgrim (1928) 归入 *Anthracothema palustre* (Pilgrim et Cotter) 中的一枚前臼齿(原作者认为可能是 P_2) (p. 15; Pl. II, fig. 9) 却具有内脊与内齿带,这与辽河的标本相同,但 *A. palustre* 齿冠基本上左右对称,又与辽河标本不同。辽河标本与渐新世的石炭兽类 *Anthracotherium* 相比,差别比较明显。*Bothriodon* 属主要生活于渐新世,在晚始新世即已出现。它的下前臼齿具有比较发育的内侧齿带和弱的内脊,但其齿冠后部内外两侧均有明显的凹陷,外齿带在齿冠后部比较明显,齿尖明显地呈新月形,因而区别于辽河标本。

辽河标本在形态特征上与渐新世和晚始新世比较有代表性的石炭兽类既有相似之处,又有差别。仅据目前的材料很难进一步确定其归属。在石炭兽类中,前臼齿的进化趋势是逐渐变短 (Pilgrim, 1928)。辽河发现的下前臼齿相对较长,内脊弱,前脊前部内弯但未形成新月型齿尖等特点,表示它的时代可能不会太晚。鉴于它与缅甸邦唐的标本有某些相似之处,作者认为它的时代为晚始新世或早渐新世的可能性较大。

张弥曼等 (1985) 根据鱼化石认为,沙河街组四段顶部至三段底部的时代为中始新世早期。1989 年 12 月,辽河油田研究院秦德荣同志来信说,1989 年 10 月在西安召开的中国油气区第三纪地层会议上,根据腹足类和介形类化石,将沙河街组三段、二段的时代定为晚始新世。因此,发现于辽河油田法 24 井沙河街组三段上部的石炭兽类化石的时代可能也应为晚始新世。

吉林桦甸产哺乳动物化石的上始新统含油地层的层位有可能与辽河油田沙河街组三段、二段相当,但两者之间尚缺乏可供直接对比的哺乳动物化石材料。辽宁抚顺煤田可能也有相当层位的地层,因没有发现哺乳动物化石,无法直接比较。朝鲜湖山 (Hôsan) 煤田的层位 (Takai, 1939) 可能也与辽河含哺乳动物化石的层位大致相当或相近。

辽河油田研究院秦德荣同志提供标本和有关地层资料,中科院古脊椎动物与古人类研究所张弥曼、翟人杰、童永生、王景文先生审阅文稿并提出意见,侯晋封先生为本文绘制

插图,在此一并表示感谢。

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AN ANTHRACOTHERE LOWER PREMOLAR FROM LIAONING

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Summary

This paper reports the first occurrence of Tertiary mammalian fossil, an anthracothere lower premolar, from an oil well core at depth of 1739 m of the drill Fa-24 in Liaohe Oilfield, which situates about 37.5 km west to the city of Shenyang (Mukden), Liaoning Province. The specimen came from the upper part of Member 3 of Shahejie Formation, a set of grey silty mudstone and pelitic siltstone. The premolar, probably P_3 , is tentatively ascribed to Anthracotheriidae gen. et sp. indet. (fig. 1).

Description This premolar (Liaohe Oilfield specimen, number LHJ0001), double rooted, has a greatly compressed crown, trianguloid in side view, with a central principal cusp. The ridges from the principal cusp have a convex slope in front, and a concave slope behind. The anterior part of the front ridge curves inwards. On the inner side, a faint distinct ridge is down from the summit of the cusp and meets the base about one third of the way between the posterior and anterior ends. A distinct lingual cingulum extends from posterior end to anterior one. Numerous striae cover all over the crown. The crown is almost unworn, but the small wearing facets are present on the antero-external side and the apex of the posterior ridge.

Discussion Based on the characters of the specimen: obvious wearing facet anterior to the cusp, great compression of the crown, large size and faint inner ridge, etc., the premolar from Liaoning is probably the third left lower premolar (P_3).

The specimen shows some resemblances to some Eocene and Oligocene anthracotheres, such as *Anthracothema*, *Anthracokeryx*, *Anthracotherium* and *Bothriodon*, but obviously differs from them. The relatively great length, faint inner ridge and nonseleodont principal cusp of this premolar probably indicate that it is not very late in age. Because it has some similarities to the forms of Pondaung, Burma, we tentatively consider its geological age to be of Late Eocene, or Early Oligocene.

According to the fish fossils, the geological age of the bottom of Member 3 and the top of Member 4 of Shahejie Formation in Bohai Gulf and its adjacent areas was suggested to be early Middle Eocene (Zhang et al., 1985). In the end of 1989, Ms. Qin Derong, a geologist working in the Liaohe Oilfield, told us in a personal communication that Members 2 and 3 of Shahejie Formation were considered to be of Late Eocene age based on the gastropod and ostracod fossils, when a symposium on the Tertiary of oil- and gas-bearing areas in China was held in Xi'an in October of 1989. Therefore, the premolar collected from the core of the drill Fa-24 in Liaohe Oilfield should be a representative of a Late Eocene anthracothere.

The mammal bearing bed may be a correlative of the mammal beds of Huadian, Jilin, Northeast China (Wang and Li, 1990) and Hôsan Coalfield, North Korea (Takai, 1939). Also, it might be a penecontemporaneous with the coal beds of Fushun, Liaoning.